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**REACTIVE TYPE ION ETCHING METHOD**

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**Abstract**

**PURPOSE:** To etch a film to be etched without damaging a foundation by adjusting the potential of an electrode at the side where a sample is placed within a specified range.  
**CONSTITUTION:** A reactive gas containing halogen atoms is introduced into an etching chamber into which a pair of parallel-plate electrodes 5, 6 are arranged while high-frequency power is applied between the electrodes 5, 6 to generate discharge plasma, and the sample 7 is etched by the plasma. The potential of the electrode 6 at the side where the sample 7 is placed through such a reactive ion etching method is adjusted within the range of 30-100V when viewed from the plasma. For example, DC voltage applied to the sheath of the surface of the lower electrode 6 is adjusted within said range by applying the high-frequency power to the upper electrode 5 by using a substrate tuning type etching device and changing the impedance of a matching box 8 connected to the lower electrode 6.

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